

# C-A OPERATIONS PROCEDURES MANUAL

## Text Pages 2 through 3

<u>HPC No.</u>	<u>Date</u>	<u>Page Nos.</u>	<u>Initials</u>

Approved: Signature on File \_\_\_\_\_  
 Collider-Accelerator Department Chairman Date \_\_\_\_\_

C-A-OPM 7.1.23 (Y)

### 7.1.23 Seal Gas Compressor Start-Up

#### 1. Purpose

This procedure provides instructions for starting the seal gas compressor associated with the turbines on the RHIC 25 kW helium refrigerator located in the refrigeration wing of 1005R.

#### 2. Responsibilities

- 2.1 The shift supervisor, or an operator designated by the shift supervisor, is responsible for conducting the procedure and providing documentation in the Cryogenic Control Room Log.
- 2.2 Should a problem arise in the process of starting the seal gas compressor, the shift supervisor shall report to the technical supervisor for instructions before continuing.

#### 3. Prerequisites

- 3.1 Main cooling water system operating (cooling towers).

#### 4. Precautions

- 4.1 If there is liquid helium in the refrigerator pots, all personnel entering the refrigeration wing of 1005R must have a Personal Oxygen Monitor (POM) and carry an emergency escape pack.

#### 5. Procedure

- \_\_\_\_\_ 1. Ensure oil level is visible in the upper sight glass.
- \_\_\_\_\_ 2. Ensure open control air supply valve. Valve is located on manifold mounted to Adsorber 'A' (upper level).
- \_\_\_\_\_ 3. Ensure circuit breaker #1 of the Main Distribution Panel is in the 'On' position and the associated fused disconnect is closed. Both items are located on the lower level south wall across from the compressor.
- \_\_\_\_\_ 4. Ensure closed the 1" \_\_\_\_\_ and 1 ½" \_\_\_\_\_ manual bypass valves.
- \_\_\_\_\_ 5. Open the manual discharge valve.
- \_\_\_\_\_ 6. Ensure open the low pressure surge tank inlet valve (located next to seal gas compressor).

- \_\_\_\_\_ 7. Ensure open the seal gas compressor discharge to main compressor valve. Valve is located on ceiling of lower level near Vacuum System#1.
- \_\_\_\_\_ 8. Ensure open the seal gas compressor make-up valve from pure helium gas. Valve s located on the column between Adsorbers 'A' and 'B' on the lower level.
- \_\_\_\_\_ 9. Open coolant water return valve W942M\_\_\_\_\_ and supply valve W941M\_\_\_\_\_ (water supply and return to Rotoflow oil skid #1 must also be open to provide a path).
- \_\_\_\_\_ 10. On the seal gas control panel, place the Local/Remote switch in Remote.
- \_\_\_\_\_ 11. Reset any local alarms on the compressor control panel.
- \_\_\_\_\_ 12. Ensure open the high pressure surge tank isolation valve (located on tank outside of west end of refrigerator room).
- \_\_\_\_\_ 13. On CRISP control page D69, click on "Start Compressor". The seal gas compressor should start, load and switch bypass valve H1258 and discharge valve H1252 to automatic mode.

## **6. Documentation**

- 6.1 The check off lines on the procedure are for place keeping only. The procedure is not to be initialed or signed, it is not a record.
- 6.2 The shift supervisor shall document the completion of the procedure in the Cryogenics Control Room Log.

## **7. References**

None

## **8. Attachments**

None